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COMMENTARY FROM IWG-1 ON NTIA PVs ON WRC-00 AGENDA ITEM 1.6.1

WRC-00 AGENDA ITEM 1.6.1: *review of spectrum and regulatory issues for advanced mobile applications in the context of IMT-2000, noting that there is an urgent need to provide more spectrum for the terrestrial component of such applications and that priority should be given to terrestrial mobile spectrum needs, and adjustments to the Table of Frequency Allocations as necessary;*

BACKGROUND: On June 26th, 1998, the NTIA sent to the FCC three preliminary views (PVs) on WRC-00 agenda item 1.6.1, which were drafted by the Radio Conference Subcommittee (RCS). The intent of this commentary from IWG-1 is to present to the FCC the views of US industry on these PVs from the NTIA, in an attempt to facilitate FCC/NTIA agreement on these PVs. Two of the three PVs from the NTIA deal with possible bands for allocation of additional spectrum of the terrestrial and satellite IMT-2000 components, respectively. The third PV deals with the terrestrial and satellite component spectrum requirements. These PVs from the NTIA were presented at the June 30th IWG-1 meeting and are in Doc. IWG-1/7.

IWG-1 RESPONSE TO THE PVs ON POSSIBLE BANDS FOR ALLOCATION OF ADDITIONAL SPECTRUM FOR THE TERRESTRIAL COMPONENT OF IMT-2000:

It is assumed that the reference to "possible bands for allocation" is referring to allocations to the Mobile Service (MS), since that it not specified in the NTIA PV. It should be noted that terrestrial component spectrum requirements for the year 2005 and beyond are being addressed with regards to the IMT-2000 agenda item. It is true that some spectrum requirements for terrestrial IMT-2000 may be fulfilled in bands currently used for terrestrial mobile cellular telephony, via the operators of current services "phasing in" the deployment of IMT-2000 equipment in their bands over a span of several years. However, it ought to be kept in mind that the frequency bands in which cellular services are currently deployed may only have sufficient bandwidth to deploy certain kinds of IMT-2000 services, such as voice telephony and lower data bit rate services. IMT-2000 is being defined to provide data bit rates well beyond what cellular services are currently providing. In addition, there is a demand for improved grade-of-service (lower blocking probability) and improved quality-of-service (e.g., better voice quality and lower error ratios for data services). Also, the market demand for existing services is expected to continue to grow as part of the trend toward anytime, anywhere communications. As a result of these demands for new and improved services, there is a real possibility that the current bandwidths of cellular services are not large enough to accommodate the services to be provided in IMT-2000.

Therefore there exists the possibility that frequency bands may have to be made available for terrestrial IMT-2000 deployment after the year 2005 that are not used currently by any type of cellular telephony.

Of course it is a serious question as to just what frequency spectrum can be made available to IMT-2000 that is not used today for cellular telephony. Additional frequency bands that could satisfy IMT-2000 mobility requirements are already extremely congested.

It is certainly understandable that the NTIA is very concerned as to what frequency bands may be identified as additional spectrum for IMT-2000. However, US industry views the sentence in the NTIA view that starts as " The U.S. opposes allocations for bands where radiolocation, et. al., are primary or secondary…" as unnecessarily broad and will in fact constrain the US in developing a reasoned response to the IMT-2000 agenda item in terms of PVs and ultimately U.S. WRC proposals and U.S. WRC positions to proposals from other administrations.

Obviously there are certain frequency bands where IMT-2000 deployment is not practicable and it has been demonstrated that the radio services with which the NTIA in concerned with in this circumstance cannot share with so-called high-density mobile station deployment. However, the problem with the above-mentioned sentence in the PV is that it is very general. It does not differentiate between cases where the stations of the services listed in this statement are deployed on a worldwide basis or on a regional one. In some of these mentioned bands, mobile services are already allocated on a primary and secondary basis. Before the U.S. summarily states no IMT-2000 in any of these bands, regardless of whether the radio service that the NTIA is concerned with is primary or secondary, the bands where there are known sharing difficulties with the MS should be documented, and studies prepared for bands in cases where no studies are known to exist.

The statement in the PV that ". . . TG 8/1 has no plans for performing sharing studies" is simply inaccurate. One can refer to Doc. 8-1/TEMP/48, a working document of SWG 2-3 of TG 8/1 from its latest meeting, SWG 2-3 being the group in TG 8/1 charged with developing CPM text. Tasks #6 and #7 of this working document, on page 2, specify that sharing studies are to be done with the stations of the incumbent services in frequency bands to be considered for IMT-2000 identification, if none do not exist. It cannot be more plain that TG 8/1 is indeed prepared to undertake whatever sharing studies are required in fulfilling its responsibility to provide a complete CPM-99 text element on the IMT-2000 agenda item.

In other words, let TG 8/1 and IWG-1 do its work. It is about two years until the start of WRC-00 and there is no point to making overly general statements about frequency bands without allowing the groups with the responsibility to study this IMT-2000 WRC agenda item to undertake it. At this time IWG-1 is of the opinion that it is premature to make broad pronouncements about what frequency bands may or may not be appropriate for terrestrial IMT-2000 deployment, when there is still sufficient time to prepare for this issue.

It is the view of IWG-1 that a more constructive statement reflecting the concerns of the NTIA with respect to the aforementioned frequency bands would be a PV worded to the effect that

> . . .in additional frequency bands that may be considered for terrestrial IMT-2000 identification, there are allocations to radiolocation, et. al. and are heavily used. It should be noted that sharing with stations of these types of services with those of IMT-2000 may be difficult, and in certain circumstances these sharing difficulties have already been documented. As the US attempts to locate suitable additional frequency spectrum for IMT-2000 applications, any incumbent usage and protection of primary radio services must be taken into account, and the appropriate sharing studies performed between the stations of these services and IMT-2000 stations, if not already undertaken . . .

A last comment is on the last sentence of the PV, that starts "Furthermore, the U. S. opposes band segmentation and refarming of bands . . ." Again, this is an overly broad comment that could prevent the US from responding to the IMT-2000 agenda item in an effective manner. And, depending on how "refarming" is defined, the last sentence of the PV may be in conflict

with the first one. If one is to deploy IMT-2000 in bands "currently used for cellular . . ." applications, there are indeed current services in these bands, yet the last sentence is opposed to ". . .refarming of bands where there are existing services." Moreover, if additional spectrum is to be made available for IMT-2000, it is apparent that it will have to be spectrum that is currently used by some type of service, mobile or otherwise. Vacant spectrum suitable for mobile applications is a very rare commodity, and probably does not exist.

IWG-1 RESPONSE TO THE PV ON POSSIBLE BANDS FOR ALLOCATION OF ADDITIONAL SPECTRUM FOR THE SATELLITE COMPONENT OF IMT-2000:

Given that the NTIA PV on the satellite component bands is very similar to that of the terrestrial component bands, much of what has been said above is also applicable to this PV. Again it is likely that the currently allocated MSS bands will not be able to meet the spectrum requirements for satellite IMT-2000 in the year 2005 and afterwards, and additional MSS spectrum for the satellite component will have to be sought.

As before, the concerns of the NTIA can be stated in a constructive manner, using the suggested words offered above with regards to the terrestrial component.

IWG-1 RESPONSE TO THE PV ON ADDITIONAL SPECTRUM REQUIREMENTS FOR THE TERRESTRIAL AND SATELLITE COMPONENTS OF IMT-2000

IWG-1 presented at its fourth meeting on July 23rd two issue statements that pertain to spectrum requirements for the IMT-2000 terrestrial and satellite components, respectively. IWG-1 has also determined that it is premature at this stage to have a PV on the spectrum requirements, since they are still being studied by the appropriate experts in IWG-1 and US TG 8/1.